Brit. J. vener. Dis. (1973) **49,** 97

Abstracts

This section of the JOURNAL *is published in collaboration with* OPHTHALMIC LITERATURE, *published by the British Medical Association. The abstracts are divided into the following sections:*

Syphilis (Clinical, Therapy, Serology, Biological False Positive Phenomenon, Pathology, Experimental).
Gonorrhoea.
Nongonococcal Urethritis and Allied Conditions.
Reiter's Disease and Allied Conditions.
Antibiotics and Chemotherapy.
Public Health and Social Aspects.
Miscellaneous.

Each subsection of abstracts includes titles of articles that have been noted but not abstracted.

Syphilis (*Clinical*)

Acquired Syphilis in Early Childhood ACKERMAN, A. B., GOLDFADEN, G., and COSMIDES, J. C. (1972) *Arch. Derm.*, **106,** 92

This is a report of acquired syphilis in three young children, the oldest of whom was 6 years of age. All three patients were seen in the University of Miami School of Medicine, Florida. The diagnosis was made in each case after the onset of secondary syphilis. The authors emphasize the diagnostic importance of the secondary papular lesions on the palms and soles.

[As syphilis acquired by young children was a well-recognized if infrequent phenomenon in the pre-antibiotic era, the description of these cases serves to underline the fact that the incidence of syphilis is again rising in the U.S.A.]

J. R. W. Harris

Nephrotic Syndrome in Very Young Infants MCDONALD, R., WIGGELINKHUIZEN, J., and KASCHULA, R. O. C. (1972) *Amer. J. Dis. Child.*, **122,** 507

Between 1952 and June, 1970, 179 children with nephrotic syndrome were admitted to two hospitals associated with the University of Cape Town Medical School. Ten were 4 months old or less when first seen and this paper presents an analysis of these ten cases. In six of them the cause of the nephrotic syndrome was congenital syphilis. Two others had an idiopathic type of syndrome; one recovered and the other was much improved. One was an example of the congenital nephrotic syndrome and died. Another died from an undetermined cause, thought to be a nephrotoxic condition. The involvement of the kidney in congenital syphilis is discussed and comparison made with the renal lesions in acquired syphilis.

[In view of the recent interest in the renal lesions of acquired syphilis, this paper is especially important in that it emphasizes that congenital syphilis is a cause of a completely treatable form of nephrotic syndrome in very young infants.]

J. R. W. Harris

Bipolar Chancres LESNIKOV, E. P., and KUDRYASHOV, G. K. (1972) *Vestn. Derm. Vener.*, **46,** 82

Liver Involvement in Early Syphilis SOBEL, H. J., and WOLF, E. H. (1972) *Arch. Path.*, **93,** 565

Syphilis in Pregnancy HOLDER, W. R., and KNOX, J. M. (1972) *Med. Clin. N. Amer.*, **56,** 1151

Clinical Picture and Histopathology of Haemorrhagic Papulous Syphylide ITSKOVICH, M. I. (1972) *Vestn. Derm. Vener.*, **46,** 80

Lues Maligna Praecox [In Polish] CHORĄŻAK, T., PIETRZYKOWSKA-CHORĄŻAK, A., and ZARĘBSKA, D. (1972) *Przegl. derm.*, **59,** 137

Unsual Manifestations of Syphilis of Long Duration RANEY, A. M., (1972) *N.Y. St. J. Med.*, **72,** 1062

Tertiary Syphilis of the Liver: Case Report ISLAM, N., and WADUD, A. (1972) *J. trop. Med. Hyg.*, **75,** 183

Neurosyphilis in Psychiatric Practice in Uganda MASAWE, A. E. J., and GERMAN, G. A. (1972) *Afr. J. med. Sci.*, **3,** 195

Syphilis (*Therapy*)

Treatment for Early Syphilis and Reactivity of Serologic Tests SCHROETER, A. L., LUCAS, J. B., PRICE, E. V., AND FALCONE, V. H. (1972) *J. Amer. med. Ass.*, **221,** 471

The Venereal Disease Branch, Centre for Disease Control (CDC), Atlanta, U.S.A., organized nine centres to re-assess the efficacy of treatment schedules recommended by the U.S. Public Health Service. 586 patients with primary and secondary acquired syphilis confirmed by positive dark-ground examination were studied. Sera taken before and after treatment were examined at the CDC by the VDRL, FTA-ABS, and TPI tests. Patients were followed for 2 years after treatment.

Criteria for cure were disappearance of clinical signs and prompt permanent decrease of VDRL titre. As relapse may be difficult to distinguish from re-infection, emphasis was placed on the total number of cases requiring further treatment in assessing results. The cumulative re-treatment rate at 24 months for each regime was:

(1) Benzathine penicillin G 2·4 m.u. in one injection, 11·4 per cent.;

(2) Procaine penicillin G with aluminium stearate 2·4 m.u. once and 1·2 m.u. twice at 3-day intervals, 10·9 per cent.;

(3) Aqueous procaine penicillin G 600,000 u. daily for 8 days, 10·7 per cent.;

(4) Oral tetracycline 3 g. daily for 10 days, 12·7 per cent.;

(5) Erythromycin base 3 g. daily for 10 days, 21·3 per cent.

The relapse rate at 12 and 24 months was under 4 per cent. An initial erythromycin dose of 2 g. daily for 10 days was stopped, as the relapse rate was over 15 per cent., and the high re-treatment rate for the 30 g. course was attributed to re-infection rather than relapse.

Results of the VDRL test reverted to negative more slowly after treatment for secondary syphilis than after treatment for primary syhpilis. Results of the TPI test, which had the lowest reactivity before treatment, showed greater reversal after treatment than FTA-ABS results. The FTA-ABS test showed marked reversal at 12 months in VDRL negative primary syphilis, but virtually no change in secondary syphilis.

It is concluded that there has been no detectable change in the response of early infectious syphilis to penicillin treatment. Tetracycline 3 g. daily for 10 days compares favourably with the penicillin regimes. Erythromycin base 3 g. daily for 10 days is an acceptable alternative to penicillin and is suggested (with reservation) for a pregnant patient who is allergic to penicillin. The FTA-ABS test had the highest reactivity rate before treatment and responded to treatment more slowly than either the VDRL or the TPI test.

R. N. T. Thin

Carbamazepine in the Treatment of Tabetic Lightning Pains
EKBOM, K. (1972) *Arch. Neurol.*, **26,** 374 18 refs

Seven patients with tabes dorsalis who had severe lightning pains were treated with carbamazepine (Tegretol), 400 to 800 mg. daily. In all patients freedom from pain was obtained within 24 to 72 hours. On discontinuing the treatment the pains recurred, but they disappeared within 1 to 3 days when medication was reinstituted. The mean observation period was 22 months. Two patients received prolonged treatment ($5\frac{3}{4}$ and $4\frac{1}{2}$ years) without a wearing off of the effect of the drug. The serum concentration of carbamazepine in these patients was the same as in ten control subjects. Observations indicate that the lightning pains are maintained by afferent impulses from the periphery and are followed by a short refractory period of varying duration. In one patient local anaesthesia of the painful area blocked the pain impulses from this area.

Author's summary

Evaluation of 460 Cases of Treated Syphilis HATOS, G. (1972) *Med. J. Aust.*, **2,** 415

This report from the Department of Public Health, Sydney, describes the results of treatment of 248 patients with primary, 65 with secondary, 54 with early latent, and 93 with late syphilis (presumably latent). Those with primary infections were given five injections of 1·2 mega units bicillin all-purpose (benzathine penicillin G 600,000 units, with 300,000 units each of procaine penicillin G and potassium penicillin G) twice a week. The other patients were given seven injections of the same preparation twice a week. Penicillin serum levels were estimated on 24 occasions, 3 and 4 days after an injection of 1·2 mega units; the mean values were 0·07 and 0·06 unit/ml. respectively.

There were seventeen re-infections in the 248 patients treated for primary syphilis (6·8 per cent), and four (6·1 per cent.) in those with secondary syphilis; none occurred in the patients treated for late infections. After a year, 9·8 per cent. of 112 patients treated for primary syphilis still had reactive cardiolipin Wassermann reactions or VDRL tests. The rates after 2 years were: secondary syphilis (38 tested) 15·8 per cent; early latent (24 tested) 41·7 per cent.; late (56 tested) 73·2 per cent.

The observed persistence of seropositivity in early syphilis is greater than that found by earlier workers, and the author suggests that *Treponema pallidum* may be losing its sensitivity to penicillin. As has happened elsewhere, an increasing proportion of infections has been seen in homosexuals, most of whom had secondary or early latent infections. The male: female ratio of notified cases of syphilis in New South Wales has risen from 1·78 in 1965 to 3·03 in 1970.

A. E. Wilkinson

[Reprinted from *Abstracts on Hygiene*, by permission of the Editor]

Persistence of Treponemes after Treatment DUNLOP, E. M. C. (1972) *Brit. med. J.*, **2,** 577

Diagnosis and Treatment of Infectious and Latent Syphilis DRUSIN, L. M. (1972) *Med. Clin. N. Amer.*, **56,** 1161

Syphilis (*Serology*)

Evaluation of the Qualitative and Automated Quantitative Microhemagglutination Assay for Antibodies to *Treponema pallidum* COFFEY, E. M., BRADFORD, L. L., NARITOMI, L. S., and WOOD, R. M. (1972) *Appl. Microbiol.*, **24,** 26

Qualitative and quantitative microhaemagglutination assays for antibodies to *Treponema pallidum* (MHA-TP) were performed on 314 syphilitic and 597 presumably nonsyphilitic sera, and the results were compared with those of the fluorescent treponemal antibody-absorbed (FTA-ABS), the *Treponema pallidum* immobilization (TPI), and the Venereal Disease Research Laboratory (VDRL) tests. MHA-TP sensitivity was similar to that of the other tests in all stages of syphilis except primary syphilis, in which MHA-TP reactivity was only 64 per cent. compared with 82 per cent. in the FTA-ABS test, 73 per cent. in the VDRL test, and 67 per cent. in the TPI test. MHA-TP specificity was satisfactory and comparable to that of the other treponemal tests. Quantitation of the MHA-TP test was automated by use of Autotiter II equipment. Titres tended to become raised later in the course of syphilis and to remain elevated longer than did VDRL titres. Reproducibility of the quantitative MHA-TP test was satisfactory, with duplicate tests agreeing within one doubling dilution on 97·5 per cent. of 351 reactive sera. Poor reproducibility was obtained with sera giving minimal reactions in the qualitative test, and such sera should be routinely retested. The MHA-TP is less time-consuming

and costly than the FTA-ABS test and could be used in conjunction with the VDRL or another reagin test for syphilis to eliminate a large number of the FTA-ABS tests now required. *Authors' summary*

Comparative Examinations for the Serological Diagnosis of Syphilis (Vergleichende Untersuchungen zur serologischen Diagnostik der Lues) ULIAN, P., and SCHAFER, S. (1972) *Öff. Gesundh.-Dienst*, **34,** 398 23 refs

In this study the reagin tests (Cardiolipin microflocculation test and Meinicke reaction), Reiter protein CFT, and a modified cardiolipin CFT were compared with the FTA-ABS and the spirochaete-agglutination test of Roemer and Schipkoter. The sera of 267 patients were tested; 138 were from cases of treated or untreated syphilis, 112 were non-syphilitic sera, and seventeen were from patients with serological evidence of syphilis but without clinical or historical confirmation. All but six of the patients with confirmed syphilis gave a positive FTA-ABS reaction; the next best test was the spirochaete-agglutination test (103 positives) followed by the Reiter protein CFT (100 positives). In the 112 non-syphilitic sera the FTA-ABS was negative. The cardiolipin microflocculation test and the two complement-fixation tests were in close agreement, giving fewer false positive reactions than the other tests. The highest number of false positive reactions were given by the Meinicke test; on the other hand the FTA-ABS was the only test positive in 21 cases of syphilis. Analysis showed that, when true and false positive and false negative reactions were considered, the FTA-ABS test was 97·6 per cent. reliable, the spirochaetal agglutination test 84·0 per cent. the cardiolipin microflocculation test 75·6 per cent., the Meinicke II 69·6 per cent., the Reiter protein CFT 68·8 per cent., and the cardiolipin CFT 65·6 per cent. One case of presumed false positive FTA-ABS and one of false negative FTA-ABS are briefly discussed. *G. W. Csonka*

[Reprinted from *Abstracts on Hygiene*, by permission of the Editor]

A Study of the Properties of Sorbent, the Reagent employed in the Fluorescent Treponemal Antibody Absorption Test HARDY, P. H., and NELL, E. E. (1972) *Amer. J. Epidemiol.*, **96,** 141

Sorbent is a heated and concentrated culture filtrate of Reiter treponemes. It is thought to neutralize the effect of group-reactive antitreponemal antibodies in sera which react with common protein antigen(s) present in *Treponema pallidum* and other treponemes. However, from the method of preparation of sorbent, protein antigens might well be destroyed during the heating process.

The authors, working at Johns Hopkins Hospital, Baltimore, examined four commercial preparations of sorbent. All were acid, with a pH between 6·25 and 6·6. Their osmolarity was from three to five times greater than that of 0·15 M saline. Their antigenicity in complement-fixation tests with an antiserum raised against Reiter treponemes varied widely, serum titres of 320 to 10,240 being found. None fixed complement with syphilitic serum. In quantitative FTA tests with immune sera against three treponemes diluted in saline and in sorbent, it was found that, while sorbent depressed cross-reactions more than homologous ones, it left some cross-reactivity. Dilution of syphilitic serum in saline of a molarity greater than 0·3 produced a marked depression of the FTA titre. The effect of changes in pH was less striking. A comparison of FTA titres of syphilitic sera diluted in saline and in sorbent and then tested with monospecific conjugates showed that sorbent depressed the IgM antibody titre much less than the IgG titre.

A rabbit infected with *T. Pallidum* developed a positive FTA-ABS test with a rising FTA titre in saline. After treatment with penicillin, both tests declined, the FTA-ABS test being weakly reactive (1+) 6 months after treatment. The animal was then immunized with Reiter treponemes; this produced an anamnestic reaction to the cross-reacting antigens but also returned the FTA-ABS test to strong (4+) reactivity. It is suggested that a response to commensal treponemes may produce a positive FTA-ABS test in the complete absence of syphilitic infection.

The authors conclude that sorbent does not exert its effect by a specific immunological action but that some of its activity is due to physical causes; it does not make the FTA-ABS test specific. *A. E. Wilkinson*

[Reprinted from *Abstracts on Hygiene*, by permission of the Editor]

Serodiagnosis of Syphilis OLANSKY, S. (1972) *Med. Clin. N. Amer.*, **56,** 1145

Demonstration of Precipitins against a Treponemal Antigen by Counter-immunoelectrophoresis BANFFER, J. R. J. (1972) *Lancet*, **1,** 996

Serology of Syphilis WILKINSON, A. E. (1972) *Brit. med. J.*, **2,** 573

Serological Diagnosis of Treponemal Infection GARNER, M. F. (1972) *N.Z. med. J.*, **75,** 353

Syphilis (*BFP phenomenon*)

Our Experience with the Application of the FTA-ABS Test for the Determination of False-positive Reactions in the Serological Diagnosis of Syphilis SCHNEIDERKA, P., and VANCURIK, J. (1972) *J. Hyg.* **16,** 231

The results of absorbing sera with lipoidal antigens, intact and ultrasonically disintegrated Reiter treponemes, to remove non-specific reactions in the FTA test were studied. Sera were diluated 1 in 5 in these reagents and titrated against *T. pallidum* as antigen. The results were compared with those of unabsorbed sera at a diluation of 1 in 100.

213 sera which gave false positive (BFP) reactions in one or more of three lipoidal antigen tests were examined; all gave negative TPI tests. Eleven were positive at dilutions of 1 in 100 or more when tested without absorption. Absorption with lipoidal antigen had little effect. A decrease in titre was seen after absorption with intact Reiter treponemes. Treatment with ultrasonically disintegrated organisms left 12 per cent reactive at a titre of 1 in 5 and 5 per cent. at 1 in 10 (this

figure is wrongly given as 50 per cent. in the text). This last sorbing agent is recommended for use; sera should have a titre of 1 in 20 or more to be classed as reactive. On this basis, all the 213 BFP sera were negative, as were 64 sera from patients with tumours of various kinds and ten sera containing rheumatoid factor. Both these categories have been said to produce non-specific FTA tests and one from each group was reactive when tested without absorption. Fifty normal sera from blood donors also gave negative results. Forty out of fifty sera from patients with syphilis at various stages were found to be reactive in the absorbed test. [It is not stated whether these were treated or untreated, but an 80 per cent. reactivity in syphilitic sera is much lower than is usually found in the FTA-ABS test with the conventional sorbent.]

A. E. Wilkinson

Rapid Plasma Reagin (Circle) Card Test in Biological False Positive and Leprosy Sera
GARNER, M. F., and BACKHOUSE, J. L. (1972) *J. clin. Path.*, **25,** 786

The antigen used in the Rapid Plasma Reagin Card Test (RPR) is VDRL antigen, to which is added choline chloride, EDTA, and carbon particles to facilitate the detection of agglutination by the naked eye. Disposable equipment is used.

RPR tests were done on 203 sera which gave positive results with either the VDRL or the CWR test, or with both. TPI and FTA-ABS tests were negative, so that these positive reactions were thought to be non-specific. The numbers of sera reactive in the three tests were: CWR, 58; RPR, 156; VDRL, 189. Although the RPR appeared to be more specific than the VDRL in this group of sera, selection by the latter test may have biased the results. In tests on 420 sera from persons presumed to be normal, which gave negative CWR, VDRL, TPI, and FTA-ABS tests, the RPR was found positive on eleven specimens.

Sera from 269 patients with lepromatous leprosy were examined. TPI and FTA-ABS tests were reactive in fourteen, indicating co-existing syphilis. Of these fourteen, the RPR was reactive in thirteen and the VDRL test in twelve. In the other 255 sera, the CWR was reactive in two, the VDRL in 24, and the RPR in twelve. The RPR test is though to be a more satisfactory test for screening leprosy sera than the VDRL test.

A. E. Wilkinson

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Syphilis (*Pathology*)

Electron Microscopic Anatomy of Pathogenic *Treponema pallidum*
WIEGAND, S. E., STROBEL, P. L., and GLASSMAN, L. H. (1972) *J. invest. Derm.*, **58,** 186

The microscopic anatomy of *T. pallidum* is summarized in schematic form. The literature is reviewed and an electron micrograph is presented suggesting that mesosomes protruding through the cell envelope may account for the lupus erythematosus sera beading phenomenon seen in the "false positive" Fluorescent Treponemal Antibody Absorption test; that mucoid coat may inhibit protective immunologic recognition of *T. pallidum*; and that axial filaments contribute significantly to the three-dimensional configuration of the organism. *Authors' summary*

Shape of *Treponema pallidum*
COX, C. D. (1972) *J. Bact.*, **109** 943

Further Observations on the Ultrastructure of *Treponema pallidum* Nichols
HOUGEN, K. H. (1972) *Acta. path microbiol. scand.*, **80B,** 297

Gonorrhoea

Nonspirochaetal Chancriform Ulcer of the Penis—Gonococcal or Staphylococcal?
GOTTLIEB, S. K. (1972) *New Engl. J. Med.*, **287,** 185 11 refs

A case is described of a 21-year-old Negro seen at the Dermatology Clinic of the Massachusetts General Hospital. He had recently returned from Vietnam, and gave a history of sexual exposure 2 weeks and one month before presentation. He had a chancriform ulcer on the shaft of the penis, with bilateral inguinal lymphadenopathy.

Exclusion was made by appropriate tests of syphilis, chancroid, lymphogranuloma venereum, and neoplasm. No urethral discharge was seen and prostatic fluid, on Gram stain, was negative for *N. gonorrhoeae*. However, bacterial culture of the lesion revealed abundant penicillin-resistant *Staph. aureus* and moderate *N. gonorrhoeae* determined by routine fermentation tests. The lesion healed after treatment with 2g. ampicillin and 1g. probenecid daily given concurrently with erythromycin 1g. daily for 10 days.

The author suggests that a complete bacteriological examination of the exudate of penile ulcers should be performed routinely.

M. A. Waugh

Cultivation and Properties of *Neisseria sp.* grown in chemically Defined Media
KENNY, C. P., DIENA, B. B., WALLACE, R., and GREENBERG, L. (1972) *Canad. J. Microbiol.*, **18,** 1087 11 refs

Sixteen strains of *N. gonorrhoeae* and twelve strains of *N. meningitidis* were grown on a chemically-defined liquid medium (NCDM) previously described. In preliminary tests it was found that the addition of agar and starch and a pH adjusted to 7·2 was a suitable medium on which meningococci grew well within 24 to 48 hours and gonococci in 48 to 72 hours. First generation colonies of both gonococci and meningococci were oxidase negative, but when subcultured on to Gc agar they yielded typical oxidase-positive colonies which gave the appropriate sugar fermentation reactions. In general the gonococcal colonies on NCDM agar plates were of Type 1, and when Types 2 and 3 were passaged on this medium they tended to convert to Type 1. *N. meningitidis* serogroups A,B,C,D,X,Y, and Z were grown on both Columbia blood agar plates and NCDM agar plates and gave specific reactions to the antisera in both series. It was also found that, when the liquid medium was filtered instead of being autoclaved during its preparation, the yield of *N. gonorrhoeae* increased and this is now the recommended procedure. *G. W. Csonka*

[Reprinted from *Abstracts on Hygiene*, by permission of the Editor]

A Serum-free Medium for Testing Fermentation Reactions in *Neisseria gonorrhoeae* FLYNN, J. and WAITKINS, S. A. (1972) *J. clin. Path.*, **25,** 525 11 refs

Conventional serum agar sugars may give equivocal results for the identification of gonococci. The authors incorporated sugars into a modified White and Kellogg medium from which cocarboxylase was omitted. Thus the trial medium contained Difco GC base, L-glutamine, ferric nitrate, and the sugars. One hundred strains of *N. gonorrhoeae* were tested, three strains of *N. meningitidis*, and five strains of commensal neisseria. After growth and check for purity, the fermentation reactions were observed for 48 hours and compared with standard serum agar sugars. On serum containing sugar media, 21 gonococcal strains gave a positive maltose reaction whilst all were negative on the test medium. Eleven strains failed to utilize glucose in the first 24 hours on serum sugar medium against three strains on the test medium; all the reactions were positive after 48 hours. The other neisseria species gave typical sugar fermentation patterns on both media. It is concluded that the potential usefulness of the serum-free medium as shown in this warrants its further trial for routine use in the laboratory.

G. W. Csonka

[Reprinted from *Abstracts on Hygiene*, by permission of the Editor]

***Neisseria gonorrhoeae*: Experimental Infection of Laboratory Animals** ARKO, R. J. (1972) *Science*, **177,** 1200

A procedure has been developed for infecting laboratory animals with *Neisseria gonorrhoeae*. Hollow polyethylene practice golf balls with holes in their walls were surgically implanted in the subcutaneous tissue of the dorsolumbar region of a rabbit. The chamber became encapsulated within the subcutaneous tissue and gradually filled with about 20 ml. of transudate which could be sampled with a hypodermic needle and syringe. After at least 30 days, 4 ml. of liquid culture medium containing 108/ml. colony-forming units of *N. gonorrhoeae* was injected into the encapsulated space together with 2 mg. dexamethasone. After inoculation, fluid was removed from the chamber at 2 to 3-day intervals for bacteriological study. Fluid from the chamber was first found to be culture positive for gonococci 3 days after inoculation and remained positive for longer than 9 months. Cultures from the first rabbit served as inocula to infect nine other rabbits. Cultures of blood, pharynx, urethra, and rectum were all negative for gonococci. Serum antibodies to *N. gonorrhoeae* were detected by a passive haemagglutination test in all ten rabbits and first appeared 6 to 30 days after inoculation. Biopsy taken 3 weeks after infection showed massive infiltration of gonococci into the tissues and blood vessels surrounding the chamber. Modified chambers were used with success to infect guinea-pigs, hamsters, rats, and mice. It was also found that, whilst dexamethasone promotes the establishment of infection, it is not essential.

[This is a very important new technique which should greatly facilitate basic research into host factors in gonorrhoea and might prove valuable in assessing therapeutic and prophylactic agents.]

G. W. Csonka

[Reprinted from *Abstracts on Hygiene*, by permission of the Editor]

Preliminary Studies on the Development of a Gonococcal Vaccine GREENBERG, L., DIENA, B. B., KENNY, C. P., and ZNAMIROWSKI, R. (1971) *Bull. Wld Hlth Org.*, **45,** 531

The vaccine used in these studies at the Canadian Communicable Disease Centre, Ottawa, was prepared by growing Kellogg Type 1 colonies of two strains of gonococci on a chemically-defined medium for 24 hours in an atmosphere of 10 per cent. CO_2. The final bacterial count was $2{\cdot}5 \times 10^7$ organisms per ml. Thiomersal was added to a concentration of 1 in 10,000 to kill the gonococci and the suspensions were left at room temperature for partial autolysis to occur; tests for sterility and safety were carried out.

54 volunteers were given three intramuscular injections of 1·0 ml. vaccine at intervals of 3 weeks. None had any previous history of gonorrhoea. Reactions were mild, consisting of pain at the injection site, except for one person who had a generalized reaction and was therefore given only two injections of the course. Blood samples were collected before and 10 days after completion of the course. Bentonite flocculation tests (Wallace and other (1970) *Canad. J. Microbio,.*, **16,** 655) and a tissue culture inhibition test (Diena and others (1971) *Canad. J. Microbjol.*, **17,** 13) were performed; the latter test measures the ability of sera to inhibit the destructive effect of gonococci on cultured monkey kidney cells.

43 patients had negative flocculation tests on the pre-immunization sera; 31 of these developed a rise in titre after immunization. Eleven had pre-immunization titres of 4 to 1,024; this last patient had a generalized reaction after vaccination, and except for him all the others showed at least a two-fold rise in titre. Eighteen patients' sera had initial titres of 10 to 40 in the inhibition test and all showed a 2- to 8-fold rise after immunization. 32 of the 36 patients in whom the test was initally negative developed inhibitory antibodies. There seems to be no correlation between the results of the two tests; four patients who failed to develop inhibitory antibody showed a good flocculating antibody response and the twelve patients who failed to develop the latter antibody all had inhibitory antibody in their sera after immunization.

The authors conclude that the vaccine clearly stimulated the production of antibody; its value in prophylaxis can only be assessed by a field trial.

A. E. Wilkinson

Fate of Gonococci in Polymorphonuclear Leucocytes: an Electronmicroscopic Study of the Natural Disease WARD *et al.* (1972) *Brit. J. exp. Path.*, **53,** 289

Isolation of *Neisseria lactamicus* from a Genital Site JEPHCOTT, A. E., and MORTON, R. S. (1972) *Lancet*, **2,** 739

Gonorrhea as a Cause of Asymptomatic Pyuria in Adolescent Boys DAWAR, S., and HELLERSTEIN, S. (1972) *J. Pediat.*, **81,** 357

Screening for Gonorrhoea in Pregnancy REES and HAMLETT (1972) *J. Obstet. Gynec. Brit. Cwlth*, **79,** 344

Asymptomatic Gonorrhoea PARISER, H. (1972) *Med. Clin. N. Amer.*, **56,** 1127

Complications of Gonococcal Infection KRAUS, S. J. (1972) *Med. Clin. N. Amer.*, **56,** 1115

Leading Article: Single-dose Treatment of Gonorrhoea *Lancet*, **1,** 885

Diagnosis and Treatment of Gonorrhoea FIUMARA, N. J. (1972) *Med. Clin. N. Amer.*, **56,** 1105

Control of Gonorrhoea RUDOLPH, A. H. (1972) *J. Amer. med. Ass.*, **220,** 1587

Treatment of Gonorrhoea with Trimethoprim-sulphamethoxazole and with Rifampicin HATOS, G., and TUZA, F. L. C. (1972) *Med. J. Aust.*, **1,** 1197

Spectinomycin for the Treatment of Gonorrhoea at Brisbane, Australia SMITHURST, B. A. (1972) *N.Z. med. J.*, **75,** 82

Treatment of Gonorrhoea with Spectinomycin Hydrochloride: Comparison with Standard Penicillin Schedules DUNCAN, W. C., HOLDER, W. R., ROBERTS, D. P., and KNOX, J. M. (1972) *Antimicrobial Agents and Chemotherapy*, **1,** 210

Diminished Antibiotic Sensitivity of *Nesseria gonorrhoeae* in Urban and Rural Areas in Kenya VERHAGEN *et al.* (1971) *Bull. Wld Hlth Org.*, **45,** 707

Antibiotic Resistance of *Neisseria gonorrhoeae* SPARLING, P. F. (1972) *Med. Clin. N. Amer.*, **56,** 1133

Nongonococcal urethritis and allied conditions

Papanicolaou Smear as a Diagnostic Tool in Male Trichomoniasis SUMMERS, J. L., and FORD, M. L. (1972) *J. Urol.*, **107,** 840

The authors, working in the Department of Urology, Akron City Hospital, Ohio, applied Papanicolaou staining to prostatic fluid and centrifuged midstream urine deposit. Their patients consisted of 46 male contacts of women with trichomoniasis. Positive findings were made in 33 (71·1 per cent.). At the beginning of the series all positive findings were confirmed by cultures, but in the second half of the study cultures were considered unnecessary.

The authors claim that the application of Papanicolaou staining, long recognized as a diagnostic tool for trichomoniasis in women, offers a significant improvement over previous methods used for the diagnosis in men. *R. S. Morton*

Diagnosis of Trichomonas Vaginitis (Die Diagnose der Trichomonas vaginitis) BARTUNEK, J., and SCHULTZE, M. (1972) *Hautarzt*, **23,** 368 10 refs

Whilst acute trichomoniasis in women is easily diagnosed, difficulties arise in the chronic form in men and women. When conditions are adverse, the parasite becomes round and immobile; these forms are not recognized in unstained specimens and need culture for identification. The authors stained their specimens with brilliant cresyl blue, which stains leucocytes and epithelial cells but not living *Trichomonas vaginalis* which can thus be differentiated. In 209 women with trichomonas vaginitis, 68 per cent. showed the classical pear-shaped form and 32 per cent. the round form. In 93 men 65 per cent. were round and only 35 per cent. showed the classical shape. 36·5 per cent. of men and 13·4 per cent. of women were asymptomatic. The round forms were associated with asymptomatic infestation in women but not in men. As the round form is common in men, cultures are advisable and should be repeated after treatment. If, after treatment, only round forms are found in both partners and there are no symptoms, one should repeat the cultures in 3 to 4 weeks before re-treating the couple. *G. W. Csonka*

Nonspecific Urethritis KING, A. (1972) *Med. Clin. N. Amer.*, **56,** 1193

***Chlamydia* and Nonspecific Urethritis** DUNLOP, E. M. C., *et al.* (1972) *Brit. med. J.*, **2,** 575

Differentiation of TRIC and LGV Organisms based on Enhancement of Infectivity by DEAE-dextran in Cell Culture KUO *et al.* (1972) *J. infect. Dis.*, **125,** 313

Localization of Genital Mycoplasmas in Women MCCORMACK, W. M., RANKIN, J. S., LEE, Y.-H. (1972) *Amer. J. Obstet. Gynec.*, **112,** 920

Genital Mycoplasmas in Gynaecology and Obstetrics (Genitalmycoplasmen in Geburtshilfe und Gynäkologie) MCCORMACK, W. M., and LEE, Y.-H. (1972) *Gynäkologe*, **5,** 229

Vaginal Mycoplasmas in Gynaecology and Obstetrics (Vaginalmykosen in der Gynäkologie und Geburtshilfe) PATT, V., NEISEN, M., and KORTE, W. (1972) *Gynäkologe*, **5,** 217

Trichomonal Infections of the Genital Tract CATTERALL, R. D. (1972) *Med. Clin. N. Amer.*, **56,** 1203

***Trichomonas vaginalis:* Diagnosis and Results** BARTUNEK, J., and SCHULTZE, M. (1972) *Hautarzt*, **23,** 368

Methods of obtaining Inflammation Products from the Anterior Urethra in Men for Examination for *Trichomonas vaginalis* AVANESOV, A. A. (1972) *Vestn. Derm. Vener.*, **46,** 77

Chronic Mucocutaneous Candidiasis: a Model for the Investigation of Cell-mediated Immunity HOLT, HIGGS, MUNRO, and VALDIMARSSON (1972) *Brit. J. clin. Pract.*, **26,** 331

Asymptomatic Candiduria. Prognosis, Complications, and Some Other Clinical Considerations SCHÖNEBECK, J. (1972) *Scand. J. Urol. Nephrol.*, **6,** 136

Renal Candidosis complicating Caeco-cystoplasty SCHÖNEBECK, J., WINBLAD, B., and ÅNSÉHN, S. (1972) *Scand. J. Urol. Nephrol.*, **6,** 129

Reiter's disease and allied conditions

Reiter's Syndrome and Acute Aortic Insufficiency BLOCK, S. R. (1972) *Arthr. and Rheum.*, **15,** 218 5 refs

A case is reported of a coloured patient who developed Reiter's syndrome with urethritis, conjunctivitis, arthritis, and keratoderma blennorrhagica. During the next 4 years he suffered from recurrent attacks of Reiter's syndrome with some residual chronic arthritis which responded only partially to corticosteroids. The cardiovascular system was clinically and radiologically normal, but the ECG showed a first degree AV block. A month after this examination he complained of night sweats and fatigue and was found to have marked aortic insufficiency. There were no mitral or aortic valve gradients. This case demonstrates that acute aortic insufficiency may develop rapidly in Reiter's syndrome, and it is suggested that patients with this syndrome, especially if there is evidence of heart block, should have careful cardiac examinations at frequent intervals.

G. W. Csonka

Antibiotics and chemotherapy

Minocycline Treatment of Venereal Disease VELASCO, J. E., MILLER, A. E., and ZAIAS, N. (1972) *J. Amer. med. Ass.*, **220,** 1323

Absorption of Erythromycin Estolate and Erythromycin Stearate BELL, S. M. (1971) *Med. J. Aust.*, **2,** 1280 10 refs

Miconazole in the Treatment of Mycotic Vulvovaginitis PROOST, J. M., MAES-DOCKX, F. M., NELIS, M. O., and VAN CUTSEM, J. M. (1972) *Amer. J. Obstet. Gynec.*, **112,** 688 14 refs

Adverse Reactions during Rifampicin Treatment RISKA, N., and MATTSON, K. (1972) *Scand. J. resp. Dis.*, **53,** 87

Effect of Cortisone on Systemic Reactions provoked by Rifampicin MATTSON, K., and RISKA, N. (1972) *Scand. J. resp. Dis.*, **53,** 97

Public health and social aspects

New Study of a Focus of Treponematosis in Casamance (Senegal) (Nouvelle enquête sur un foyer de tréponématose en Casamance (Sénégal)) BASSET, A., MÂLEVILLE, J., MALGRAS, J., PRIVAT, Y., FAYE, I., BASSET, M., HEID, E., RUSCHER, H., and ERMOLIEFF, S. (1972) *Bull. Soc. Path. exot.*, **65,** 66

The inhabitants of three villages in the Tankton region of Casamance were investigated. This is wooded savannah country in which groundnuts are grown. Two of the villages were inhabited by members of the Peul tribe. In the first, serological tests were positive in fourteen of 24 persons, including nine of sixteen children under 15 years of age. Two adults and four children had lesions, and treponemes were found in two of the latter. In the second village, tests were positive on sixteen out of 27 sera, including twelve from 23 children. Lesions were present in two adults and seven children; four of the latter lesions contained treponemes. The third village, apparently about 20 km. from the others, was inhabited by Mandingos, but was visited by Peuls. Serum tests were positive in six of thirty specimens; two of these were from the 25 children in the group. Lesions were seen in three adults and four children; three of these last were Peuls whose lesions contained treponemes.

The lesions seen in the children were mucous patches round the mouth and anal region, ecthymatous ulcers of the lower limbs, and pustular lesions of the skin. In adults, sabre tibiae and palmar depigmentation were found; treponemes were found by silver staining in a biopsy specimen from the latter type of lesion.

The disease among the Peul is thought to be a form of endemic non-venereal syphilis. Why it should be so common among them but less frequent among the neighbouring Mandingos, who live under similar environmental conditions, is not known. *A. E. Wilkinson*

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Treponematosis Frequency in the Baoulé of the Ivory Coast (in French) CIRERA, P., CABANNES, R., BONHOMME, J., and PENNORS, H. (1972) *Bull. Soc. Path. exot.*, **65,** 79

The Treponemal Evolution WILLCOX, R. R. (1972) *Trans. St. John's Hosp. derm. Soc. (Lond.)*, **58,** 21 14 figs, 120 refs

A World Look at the Venereal Diseases WILLCOX, R. R. (1972) *Med. Clin. N. Amer.*, **56,** 1057

The National Venereal Disease Problem LUCAS, J. B. (1972) *Med. Clin. N. Amer.*, **56,** 1073

The Physician's Responsibility in the Teen-age Gonorrhea Problem NELSON, J. D. (1972) *Amer. J. Dis. Child.*, **124,** 174

Venereal Disease in the Armed Forces GREENBERG, J. H. (1972) *Med. Clin. N. Amer.*, **56,** 1087

Professional Education and the Control of the Venereal Diseases WEBSTER, B. (1972) *Med. Clin. N. Amer.*, **56,** 1101

The Changing Pattern of the Venereal Diseases Service CATTERALL, R. D. (1972) *Lancet*, **2,** 321

Prophylaxis in the Venereal Diseases CUTLER, J. C. (1972) *Med. Clin. N. Amer.*, **56,** 1211

Rape in the District of Columbia HAYMAN *et al.* (1972) *Amer. J. Obstet. Gynec.*, **113,** 91

The Molested Young Female: Evaluation and Therapy of Alleged Rape BREEN, J. L., GREENWALD, E., and GREGORI, C. A. (1972) *Pediat. Clin. N. Amer.*, **19,** 717

Sexual Offences FORBES, G. (1972) *Practitioner*, **209,** 287

Human Aspects of Medical Sexuality WABREK, A. J., and FELDMAN, P. M. (1972) *Obstet. and Gynec.*, **39,** 805 1 ref

Male Sexual Behavior and Use of Contraceptives in Santiago, Chile HALL (1972) *Amer. J. publ. Hlth*, **62,** 700

Sexual Problems of the Adolescent Female BROWN, F. (1972) *Pediat. Clin. N. Amer.*, **19,** 759

Sex Education of the Adolescent Female SEMMENS, J. P., and SEMMENS, J. H. (1972) *Pediat. Clin. N. Amer.*, **19,** 765

Marital Pathology. A Review DOMINIAN, J. (1972) *Postgrad. med. J.*, **48,** 517

Current Incidence and Trends in Marital Breakdown CHESTER, R. (1972) *Postgrad. med. J.*, **48,** 529

Sexual Problems in Marriage: Non-consummation CHISHOLM, I. D. (1972) *Postgrad. med. J.*, **48,** 544

Causes and Management of Impotence COOPER, A. J. (1972) *Postgrad. med. J.*, **48,** 548

Miscellaneous

Induratio Penis Plastica (Peyronie's Disease). The Results of Various Forms of Treatment BYSTRÖM, J., JOHANSSON, B., EDSMYR, F., KÖRLOF, B., and NYLEN, B. (1972) *Scand. J. Urol. Nephrol.*, **6,** 1 14 refs

Although Peyronie's disease was described in 1743, the cause still remains obscure. The authors discuss the histopathology of the condition and theories of causation, and describe results in the treatment of 58 selected patients seen at the Karolinska Sjukhus in Stockholm since 1950. They enumerate ten forms of treatment recommended at various times, but their own experience was limited to four methods:

(1) Local injection of steroids;

(2) Vitamin E;

(3) Combination of radiotherapy and Vitamin E;

(4) Combination of local steroids and Vitamin E.

The observation time after treatment varied from 1 to 16 years (mean 5½).

Method 1 (30 cases)
Weekly injections, each of 0·5 to 1·0 ml. prednisolone, were given into the penile plaques on six or seven occasions. The treatment was often painful and unpleasant in spite of local anaesthesia and there were some complications. Results were considered good in three cases and moderate in six; 21 patients showed no improvement.

Method 2 (17 cases)
Vitamin E was given, presumably by mouth, in a dosage of 100-300 mg. daily for 3 to 12 months. Only one patient noted a slight improvement.

Method 3 (19 cases)
Only four showed moderate improvement.

Method 4 (11 cases)
One was said to have made a good response and two were moderately improved.

The authors seem to understate the case when they conclude that conflicting reports of the results of treatment are an indication that no method is fully effective, especially in view of evidence to which they refer that, in the absence of treatment, spontaneous improvement is likely to occur in 50 per cent. of cases and complete cure in 20 to 30 per cent.

They note that promising results have been described from the use of a cytotoxic drug, Natulanar, but they observe very reasonably that the remedy is toxic and cannot be recommended for general use. They believe that if operation is considered, preliminary cavernosography is important to map out the actual size of the plaque. *A. J. King*

Condyloma Acuminatum in Childhood PATEL, R., and GROFF, D. B. (1972) *Pediatrics*, **50,** 152

This is a report from New Jersey of the occurrance of massive perineal condyloma acuminatum over a 5-month period in an 18-month-old baby girl. The mother had been treated for condyloma acuminatum in the last trimester of pregnancy. The authors discuss the importance of adequate treatment with minimal scarring in a child of this age. They advise for large lesions ligation of the stalk at the base of the condyloma followed by excision and then treatment of the smaller lesions with either podophyllin or local applications of 5 per cent. ammoniated mercury ointment. It is claimed that this is the only case reported in an infant whose mother was known to have condyloma acuminatum during pregnancy and delivery. *J. R. W. Harris*

Toxic Effect of Podophyllum Application in Pregnancy CHAMBERLAIN, M. J., REYNOLDS, A. L., and YEOMAN, W. B. (1972) *Brit. med. J.*, **2,** 391

An 18-year-old primigravida was admitted to hospital for the treatment of florid vulval warts. Under general anaesthesia 7·5 ml. of a 25 per cent. solution of podophyllum resin in compound tincture of benzoin was painted on to the warts. A severe peripheral neuropathy developed postoperatively; by the ninth day there was profound weakness of the limbs with absent tendon reflexes and bilateral wrist and ankle drop, and the patient was dyspnoeic, cyanosed, and unable to cough up secretions. The cerebrospinal fluid was normal.

In addition, she had hypokalaemia which persisted for 5 days post-operatively despite intravenous replacement.

2 days after the warts were treated, the foetal heart could not be heard, and 10 days later a stillborn infant was delivered. The placenta contained numerous infarcts. The patient required a short period of assisted respiration, but the neuropathy improved slowly after the tenth post-operative day; 3 months later she could walk without aid but hand movements were still impaired. She was lost to follow-up for the next 6 months, by which time she had completely recovered from the neuropathy; she was by now pregnant again, and subsequently delivered a normal infant.

The authors point out that acute confusional states and peripheral neuropathy have previously been recorded after the topical application of podophyllum. They feel little doubt that the severe peripheral neuropathy in the present case was due to absorbed podophyllum and that the intrauterine death may well have been due to the podophyllum or its secondary metabolic effects. It is thought that podophyllum is too toxic and potentially dangerous a substance to use in the treatment of genital warts, particularly in pregnancy, and the authors doubt that the toxic nature of podophyllum is sufficiently appreciated.

[The amount of podophyllum used in the treatment of this patient was considerably more than that usually employed for the treatment of genital warts. It is inadvisable to use the drug at all during pregnancy, and it should be used with caution at all times. Although genital warts are often very large during pregnancy, they usually regress without treatment during the puerperium.]

J. D. Oriel

Giant Condyloma Acuminatum of the Anorectum SHAH, I. C., and JERTZ, R. E. (1972) *Dis. Colon Rect.*, **15,** 207 4 figs, 5 refs

Two cases of giant condyloma acuminatum (Buschke-Löwenstein tumour) are described, one in a 32-year-old Negro woman and one in a 73-year-old Caucasian woman. In both, the disease had been present for many years, and there was extensive involvement of the anus, rectum, and adjacent structures with multiple fistula formation. Applications of podophyllin, local excision, and radiotherapy were all followed by recurrence. The first patient underwent abdomino-perineal excision of the rectum but recurrence and extension of the lesions occurred, and she eventually died. The second patient was lost to follow-up, but continued to have extensive disease. In both patients multiple biopsies were consistent with condyloma acuminatum and there was no evidence of metastasis at any time.

[Some sixty cases of giant condyloma acuminatum of the penis have been described, but it is extremely rare in the anorectum, only four other cases having been reported previously.] *J. D. Oriel*

Epidemic of Soft Chancre (Chancre moux épidémique) THIERS, MOULIN, MICHEL, NORMAND, JOSEPH, and DOLLINGER *Bull. Soc. franç. Derm. Syph.*, **78,** 202

After a long period of freedom, soft chancre has reappeared in the Lyon area and nine cases were observed in September/October, 1970. All the patients were Algerian males. The incubation period was not easy to determine but ranged from 3 to 30 days. The lesions were confined to the genital region. In four cases there was induration suggesting at first syphilitic chancre. Cultures for Ducrey bacilli were positive in two. Serological tests for syphilis remained negative. In three cases the sores were multiple and in seven there was marked adenopathy. Autoinoculation was positive in five cases. Treatment with a course of Solumedine was successful and there were no complications. *G. W. Csonka*

Behçet's Disease. Report of Ten Cases, Three with New Manifestations O'DUFFY, J. D., CARNEY, J. A., and DEODHAR, S. (1971) *Ann. intern. Med.*, **75,** 561

Experiences in the Use of Fibrinolytic Agents in Behçet's Syndrome KIRK, J., and HANDLEY, D. A. (1972) *Aust. J. Derm.*, **13,** 1, 5

Behçet's Syndrome, Crohn's Disease, and Toxic Megacolon MIR-MADJLESSI, S. H., and FARMER, R. G. (1972) *Cleveland Clin. Quart.*, **39,** 49

Herpes genitalis YOUNG, A. W. (1972) *Med. Clin. N. Amer.*, **56,** 1175

A Rapid Diagnostic Aid for *Herpesvirus hominis* Infections in Dermatology BLACK, M. M., MCQUILLIN, J., and GARDNER, P. S. (1972) *Dermatologica (Basel)*, **144,** 45

Antibodies to Surface Antigens of Herpesvirus Type 1 and Type 2 Infected Cells among Women with Cervical Cancer and Control Women SMITH *et al.* (1972) *Infect. and Immun.*, **5,** 305

Epidemiology of Type 2 (Genital) Herpes Simplex Virus Infection JOSEY, W. E., NAHMIAS, A. J., and NAIB, Z. M. (1972) *Obstet. gynec. surv.*, **27,** 295 77 refs

Effect of *Herpesvirus hominis* Type 2 on Human Cervical Epithelium: Scanning Electron Microscope Observations WILBANKS, G. D., and CAMPBELL, J. A. (1972) *Amer. J. Obstet. Gynec.*, **112,** 924

Herpes Simplex of the Lower Genital Tract in the Female MCINDOE, W. A., and CHURCHOUSE, M. J. (1972) *Aust. N.Z. J. Obstet. Gynec.*, **12,** 14

Local Treatment of 32 Patients with Herpes of the Skin and Mucosae using Rifomycin SV or Rifampicin NETTER, R., FRANCESCHINI, P., CHANIOT, S., and PIAT, A. (1972) *Presse med.*, **1,** 36, 2403

Chromosomes of Condyloma Acuminatum, Paget's Disease, *in situ* Carcinoma, Invasive Squamous Cell Carcinoma, and Malignant Melanoma of the Human Vulva KATAYAMA, K. P., WOODRUFF, J. D., JONES, H. W., and PRESTON, E. (1972) *Obstet. and Gynec.*, **39,** 346 6 figs, 7 refs

Phthiriasis Pubis KINMONT, P. D. C. (1972) *Practitioner*, **209,** 342

Tunisian and Parisian Observations on "Crab louse" *Phthirus inguinalis L* (In French) MATHIS, M. (1972) *Bull. Soc. Path. exot.*, **65,** 169

Peyronie's Disease POUTASSE, E. F. (1972) *J. Urol. (Baltimore)*, **107,** 419 3 figs, 6 refs

Plastic Induration of the Penis BORODIN, I. T. (1972) *Vestn. Derm. Vener.*, **46,** 70

Lichen Sclerosus et Atrophicus PANET-RAYMOND and GIRARD (1972) *Canad. med. Ass. J.*, **106,** 1332

Nonvenereal Sclerosing Lymphangitis of the Penis GREENBERG and PERRY (1972) *Arch. Derm.*, **105,** 728

Atypical Case of Priapism with Unusual Sequelae RHEINSCHILD, G. W., OLSEN, B. S., LIPPE, S., and BRINTON, J. (1972) *J. Urol. (Baltimore)*, **107,** 423 3 figs, 10 refs

Paget's Disease of the Scrotum: Case Report with Local Lymph Node Invasion VERMILLION, C. D., and PAGE, D. L. (1972) *J. Urol. (Baltimore)*, **107,** 281 1 fig., 12 refs

Treatment of Urethral Strictures WISE, H. A., ENGEL, R. M. E., and WHITAKER, R. H. (1972) *J. Urol. (Baltimore)*, **107,** 269 2 figs, 17 refs

Surgical Management of Squamous Cell Carcinoma of Penis SKINNER, D. G., LEADBETTER, W. F. and KELLEY, S. B. (1972) *J. Urol. (Baltimore)*, **107,** 273 2 figs, 19 refs

Cervical Carcinoma and Oral Contraception BOYCE, J., LU, T., NELSON, J. H., and JOYCE, D. (1972) *Obstet. and Gynec.*, **40,** 139

Pediatric Vulvovaginitis ALTCHEK, A. (1972) *Pediat. Clin. N. Amer.*, **19,** 559

Adolescent Vulvovaginitis ALTCHEK, A. (1972) *Pediat. Clin. N. Amer.*, **19,** 735

A Review of the Recent Literature on Diseases of the Vulva.
I. General aspects
II. Vulvitis and infections
III. Carcinogenesis and tumours
RIDLEY, C. M. (1972) *Brit. J. Derm.*, **86,** 163, 641; **87,** 58